MARINE RECREATIONAL INFORMATION PROGRAM

FY Project Plan

Internet based angler logs as a source of fishery dependent data

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1. Overview

1.1. Background

One of the recommendations made in the National Research Council's 2006 review of recreational survey methodology was to explore the potential for using panel survey methodology to obtain fisheries information (NRC, 2006). Currently, numerous examples exist of informal volunteer panel based electronic angler reporting systems that allow recreational anglers to record catch and fishing trip information. Whereas many of these panels take the form of web-based electronic logbooks that avail of smart phone as well as other forms of mobile technology, basically similar types of information are targeted. However, there can be distinct differences in how panel participants are recruited and panels maintained. Moreover, angler logs may vary by length of the recall period, the resolution and quality of catch and effort information obtained and angler incentives to report trip information. The motivation for the creation of a web-based angler survey or log may be out of concern for a particular stock or just a desire to provide a way for anglers/members a means to more accurately track their fishing trips. Whatever the rationale, there are some minimum data needs that must be addressed if the logs are to provide meaningful data for stock assessment purposes. How the data can be used will depend on how well they represent fishing activity and behavior (i.e., panel recruitment and maintenance and identification of potential sources of reporting bias among panel participants). Statistical considerations concerned with panel recruitment and maintenance were discussed recently at an MRIP funded workshop on "Opt-In" angler panels (Didden, 2012).

Currently there are no minimum standards for how panels are constructed (i.e., recruited), the types of data collected or for the units reported. There may be an expectation among well meaning panel participants and organizers that there data be used and a tendency to presume foul play when they are not used as expected to inform stock assessments. Ironically, one of the cautions included in the NRC review was that stock assessment biologists were made aware of the data limitations (NRC, 2006). That caution could certainly be extended to participant anglers in electronic logbook programs and organizations that may have unrealistic expectations for how their data may be used. The defense of any decision to include or exclude data from this increasingly popular source is greatly facilitated through a well designed set of criteria that outlines minimum requirements for data types and quality as well as for the selection process used to recruit panel members. By setting criteria or standards and making those standards available to angling groups, who wish to avail of electronic reporting, decisions to include or exclude logbook data in the stock assessment process can be defended at data workshops. Guidance to angler groups and organizations wishing to establish electronic reporting systems or improve existing reporting systems, needs to take the form of a set of recommended practices that includes recommendations for minimum data elements and standards.

By providing a template that ranks usability of data provided in e-logs in terms of data needs (including adaptability to future data needs), data quality, ability to account for potential sources of bias, and meet minimum standards for consideration as valid data sources, angler expectations for data use are clearly defined, and the potential of angler e-logs to augment state and federal data

collection programs can be explored. The process allows for integration of an increasingly visible potential source of data under the MRIP umbrella. Anglers are provided with a vehicle for data usage and guidance in terms of data needs and quality.
The Snook and Gamefish Foundation (SGF) has had a long standing partnering realtionship with FWC. SGF has acted as a counduit between anglers, scientists and managers built from a mutual goal of conservation. SGF has been instrumental in garnering supporty from the angling population for state led data collection programs for snook and other inshore species. The original concept for the iAngler application was based on stock assessment needs for information on released catch. The group communicates regularly with state and federal partners on data needs and possible solutions. The partnership of SGF with FWC allows immediate as well as long term data needs to be communicated effectively to a large sector of the inshore and (an increasing number of offshore) angling population. SGF has been instrumental in FWC efforts to obtain hard parts for age and growth analyses through their endorsement of the snook carcass program. It is believed that the inclusion of groups such as SGF (and others potially attempting to assist with data collection) within the MRIP process provides state and federal partners an opportunity to build support for MRIP data collection improvement efforts while allowing anglers a more active role in data collection. The value of these kinds of partnerships should not be underestimated in terms of the angler outreach potential (See attachment: Florida Saltwater Regulations - p17).

1.2. Project Description

Florida Fish and Wildlife Conservation Commission will partner with an established angler e-log provider (The Snook and Game Foundation of Florida (SGF) to evaluate the web-based Angler Action program and iAngler application for smart phones as a potential source of data for stock assessments. The data will be evaluated in terms of the representativeness of the recruited panel members, data volume, and resolution. Based on that review, a set of recommended practices for the establishment and maintenance of e-log systems will be produced. The evaluation will be used to make improvements to Angler Action Program/iAngler application. Improvements to the iAngler system will be evaluated for a period of one year to allow sufficient data to accumulate for before and after comparisons. Particular attention will be paid to panel recruitment and retention as well as the behavior of recruited anglers as it pertains to panel participation characteristics. Weekly data feeds from the AAP will allow an initial evalution of the effectiveness of the panel in terms of project objectives and will allow for feedback to be considered in a timely manner so that improvements can be made in an adaptive manner. An initial workshop will be focused on stock assessment data needs which will allow for minimum data standards to be developed. It is expected that these standards will depend on the data collection goals of the application but the practicality and defensibility of those data collection goals will be a primary consideration in any recommendation that follows.

1.3. Objectives

The primary objective of the study is to provide guidelines for the establishment and upkeep of panel-based e-logs that are consistent with MRIP goals and augment rather than compete with MRIP data. By providing guidelines for minimum data requirements and standards for considered inclusion in stock assessments, expectations by users and developers can be realistically set. The process facilitates a leadership role for MRIP data collection programs and sets standards for electronic reporting system developers wishing to provide meaningful data for inclusion in stock assessments.

1.4. References

National Research Council (2006). Review of Recreational Fisheries Survey Methods. National Academy of Sciences, Washington, D.C. 187pp. Didden, J. (2012). Summary of Feb 2, 2012 Workshop on Opt-In Angler Panels. MRIP Report 10pp.

2. Methodology

2.1. Methodology

As the goal of the study is to define parameters for use of e-log type surveys, methods concentrate on characterization and evaluation of the currently available data in an established e-logbook, describing and implementing needed improvements and reevaluation/calibration of data in terms of adjustments to survey design features.
The Snook and Game Foundation will provide IAngler data for review and analyses. The database will be assessed in terms of sample size and distribution, species reported, counts and size distribution. The adequacy of the data to identify bias will also be assessed. Analyses will include as far as possible an overall characterization of the panel make-up, and associated response bias. Estimation of Catch per Unit Effort (CPUE) will be completed for species for which adequate data exist and comparisons made with existing data for those species from MRIP and other sources.

A three stage approach is advocated for this study and forms the basis for assessing the current status of data collection and recommendations for improvments consistent with MRIP goals.
(1) Description of stock assessment needs and evaluation of the potential for angler e-logs to provide information.
a. Description of minimum data elements and standards
b. Protocols for ranking e-Logs based on meeting minimum requirements for inclusion of data in the stock assessment process.
c. Possible certification procedures for compliance with minimum data standards. ACCSP may be possible
(2) Evaluation of the Angler Action Program/iAngler log devised by the Snook and Game Foundation in its current form for use as a potential source of data for stock assessments. The evaluation will include:
a. Evaluation of the panel in terms of selection bias, quality and volume of information obtained.
b. Description and critique of the survey instrument and information components.
c. Description and evaluation of data elements in terms of formatting, minimum data requirements, data quality and participant reporting patterns.
(3) Outline of improvements necessary for inclusion of iAngler data in stock assessment process.
a. Description of practical improvements to the iAngler system that will help to indentify sources of bias.
b. Set expectations for the inclusion of iAngler data at the assessment level based on criteria for:
i. scientific defensibility – must be able to identify and/or account for bias.
ii. compatibility with existing data.
iii. stock assessment needs.
c. Incorporation and assessment of recommended improvements to the iAngler system.
Recommended improvements will form the basis for a set of recommended practices and minimum data requirements to be made available to entities interested in providing data for stock

assessment purposes.

2.2. Regions

2.3. Geographic Coverage

iAngler/Angler Action Program users are largely constrained to Florida although users are worldwide

2.4. Temporal Coverage

Study period is from June, 2013-September 2014 (Earlier data incl.), Final Report December, 2014

2.5. Frequency

Weekly for data transfers, Monthly for data summarization and informal reporting, quarterly reports

2.6. Unit of Analysis

angler trip

2.7. Collection Mode

Electronic informal panel survey

3. Communications Plan

3.1. Internal

Weekly data downloads from SGF to FWC will be followed by a brief conference call to verify data transfer and to communicate any isses experienced.
Monthly calls will be used to relay summary of data analysis to AAP staff.
Weekly conference calls are expected to be of longer duration in the intial 4-6 months because recommendations for improvements will be discussed.

3.2. External

A workshop is planned with stock assessment biologists, MRIP representatives (outreach and data related) to set initial standards for data collection. All other angler related outreach will be the responsibility of SGF. SGF will communicate such efforts to FWC partner and MRIP representatives
Recruitment workshops will be the responsibility of SGF. However, FWC will participate and communicate data needs. A minimum of four workshops will be presented.
Informal communication between FWC analytical staff and S&T scientific staff will take place on an as needed basis with a goal towards insuring MRIP objectives and that direction taken in development of the AAP are consistent with data needs (3-6 times per year).

4. Assumptions and Constraints

4.1. New Data

Yes

4.2. Track Costs

4.3. Funding Vehicle

Gulf States Marine Fisheries Commission

4.4. Data Resources

Snook Foundation fo Florida (iAngler data collection program) data transfers to FWC
Angler catch and trip information. Anglers will not be identified.
Recommendations for minimum data standards, panel recruitment guidelines.

4.5. Other Resources

FWC staff time (data analyses) 0.5 FTE.

Input from FWC stock assessment biologists regarding the initial set up (minimum data requirements, and data quality standards)
Development of a FWC database to house data transfers (MS SQL Server). These data will comply with NOAA standards for data accessibility and metadata.

4.6. Regulations

Snook is primarily a catch and release fishery (>90% released). Although there have been long term closures on both coasts of Florida, data collection is expected to be impacted minimally as a result of regulations. Red drum and spotted seatrout are also regulated for seasonal closures with restrictive slot sizes. Regulated offshore species may be evaluated as candidate species for data elements considered lacking in MRIP. Seasonal and area closures apply in the Gulf and Atlantic.

4.7. Other

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

Quarterly reports to NOAA (Grants.gov)

6.2. New Data Sets

Angler catch and trip information from iAngler (angler identification protected by Snook Foundation)

6.3. New Systems

Data tables derived from weekly iAngler data feeds and associated metadata, data interface for tran.

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost Estimates

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00